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ABSTRACT

The paper presents results of preliminary work in developing a scale to assess attention deficit disorder in a manner that provides educationally useful information. Based in part on B. Keogh and J. Margolis's component analysis of attending skills in learning disabled children (skills of coming to attention, sustaining attention, and making decisions and including educationally important behaviors such as impulsivity and auditory attending), the scale's preliminary version showed adequate interrater reliability and modest relation to observational criteria. The initial study involved two teachers rating 17 children in classes for the learning disabled. Results indicate the scale's potential usefulness in assessing attention deficit disorder if it can be further developed to provide greater validity in assessing target behavior areas. (Author/CL)

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Development of a Scale to Assess Attention Deficit Disorder in Children

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Summary

This paper presents results of preliminary work to develop a scale to assess attention deficit disorder in children in a way that provides eudcationally useful information. Based in part on Keogh and Margolis' component analysis of attending skills in learning disabled children into the skills of coming to attention, sustaining attention, and decision-making and including educationally important behaviors such as impulsivity and auditory attending, the scale in its preliminary version showed adequate interrater reliability and modest relation to observational criteria. Given the small number of items contained by the preliminary version, it is possible that further development of the scale might improve its validity. This work is currently in progress.

Development of a Scale to Assess Attention Deficit Disorder in Children

Attention deficit disorder (ADD) is a problem frequently encountered by school psychologists in evaluating and developing remedial plans for children with learning problems. A precise definition of what constitutes ADD is difficult to present because although most workers agree that a problem exists, few agree on its precise characteristics. Defining attention disorders as a separate diagnostic entity is a new approach to the problem delineated in the American Psychiatric Association's Diagnostic and Statistical Manual--III (1980), which states that ADD may be inferred from such behaviors as failing to finish school work begun, being easily distracted, or displaying impulsivity in cognitive or social behaviors. The syndrome now called ADD has historically been considered as part of a more general syndrome variously labeled "minimal brain dysfunction" or "hyperkinesis" (Strauss & Lehtinen, 1947; Wender, 1972). The concept of MBD has been attacked on both logical and historical grounds (Saunders, 1979; Schrag & Divoky, 1975); some evidence suggests that behaviors included in the syndrome do not occur together regularly, implying that the hyperkinetic syndrome does not exist, as least in the form described by clinicians (Routh & Roberts, 1972; Werry, 1968). More recently, however, additional research has shown that ADD in children may legitimately be considered an entity deserving further study (Lahey, Green, & Forehand, 1980), particularly when attention problems are considered independently from behavioral hyperactivity.

Experience as well as research attests to the need for investigation of the characteristics of the group of children having difficulties in sustaining

attention in educational settings. Certainly, impulsivity, a characteristic mentioned in many definitions of ADD, has been well documented as a reliably measured and educationally and behaviorally relevant characteristic of children (Messer, 1976). For the purpose of this discussion, the DSM-III definition of ADD (briefly, inattention and impulsivity with or without hyperactivity) will be followed. This paper presents a discussion of the preliminary development of a scale to assess ADD in a way that provides educationally relevant information.

The scale as it is constituted at present consists of five subscales measuring the following aspects of attention skills: (1) Coming to attention, (2) Sustaining attention, (3) Impulsivity, (4) Activity level, and (5) Auditory attention. The first three areas of skills are drawn from Keogh and Margolis' analysis of the attending difficulties of learning disabled children (1976a, 1976b). The last two are added because of their relevance to understanding children's classroom difficulties. A high activity level may create various problems for the child and teacher, ranging from the child's inability to remain seated in order to conform to classroom routine to the teacher's exasperation with the child who unknowingly disrupts the classroom atmosphere. Auditory attending is a critical skill for children since much instruction and direction in the regular classroom are provided orally.

The first element of Keogh and Margolis' analysis, coming to attention, requires that the child orient him or herself to a problem situation by "focusing, organization of the perceptual field, and determination of salience" (1976a, p. 352). The second element, maintaining attention, refers to the capacity to attend to a task over time once coming to attention

has been accomplished. It might be described as the ability to maintain the relatively narrow attentional focus over time required by academic work and sequences of behaviors without returning to the broad focus which is capable of taking in a much larger area such as the classroom. The third element of attention in this model, decision-making, refers to the capacity to appropriately apply attention arrived at and maintained to the task at hand without responding too quickly. This aspect may be seen to be similar to the cognitive tempo dimension reflectivity-impulsivity proposed by Kagan, Rosman, Day, Albert, and Phillips (1964) and perhaps related to the coding stage of information processing discussed by Sternberg (1979) in his work on intelligence.

The other two subscales, activity and auditory attention, refer to the child's overall level of activity both in and out of seat and his or her capacity to understand directions and instruction in the classroom. As noted above, these behaviors are of critical educational relevance and require assessment whenever other aspects of ADD are present or suspected. At times, teachers may not notice behaviors indicating auditory attention difficulties, or interpret them as failures to comply with directions rather than as a failure to understand directions.

For purposes of the preliminary study, five items were generated for each of the five scales. A small number was chosen in order to limit the length of the scale since the purpose of this work was to determine the feasibility of developing such a scale. Examples of items for each of the scales include:

Coming to Attention:

Has difficulty getting organized to begin work

Required frequent reminders to begin work

Sustaining Attention:

Is easily distracted by noises or other children

Doesn't finish work or omits parts of work

Impulsivity:

Often makes errors because she or he doesn't stop and think

Doesn't understand the need for self-restraint--blurts out answers or forgets to raise his or her hand

Activity:

Is frequently out of seat

Fidgets; moves around a great deal in her or his seat

Auditory Attention:

Has difficulty in following oral directions

Has trouble following class discussion--tunes out easily

In this study, two teachers independently rated 17 children in classes for the learning disabled on each of the 25 items of the scale, assigning each a value from one to seven according to how typical each behavior was of the child to be rated. A score for each scale was calculated by adding each item for each scale, and a score for the scale as a whole was calculated by adding subscale scores. Interrater reliability for the total scale score was .84.

Additionally, another school psychologist otherwise not connected with the study received explanation of each of the behaviors to be assessed by subscales and a copy of the DSM-III explanation of ADD. He was then asked to observe each of the children and to rate them on the behaviors for each

subscale and to provide a global rating of to what extent the child displayed the characteristics of ADD. Correlations of ratings with scale scores from the ratings of the teachers ranged from .61 to .73, with most around .65.

These results suggest that the present scale may have usefulness in assessing ADD in the classroom if it can be further developed to provide greater validity in assessing target behavior areas. While correlations between scale ratings and independent observations are modest, they are based on a small number of items. It is possible that if a larger item pool is developed and from that pool items which are more satisfactory are drawn, these modest correlations may be improved. The present study demonstrates the feasibility of further development of this scale. This development is now in progress.

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